Description of algorithm to select "best" oligonucleotide adapter sequences.

Requirements for good sequences:

- Generates adequate hybridization signal intensity when employed in an experiment.
- Exhibits minimal cross-reactivity with other adapter sequences.
- Unique within the human genome sequence. This requirement can be extended to the genomic sequence of other organisms such as the fruit fly, the mouse, etc.

One method of generating sequences that meet the above requirements is to randomly generate sequences of given lengths and than pass these filters through a set of heuristic acceptance filters. In particular, the 24-mer Illumina Adapter sequences (IllumaCodes) were chosen as follows.

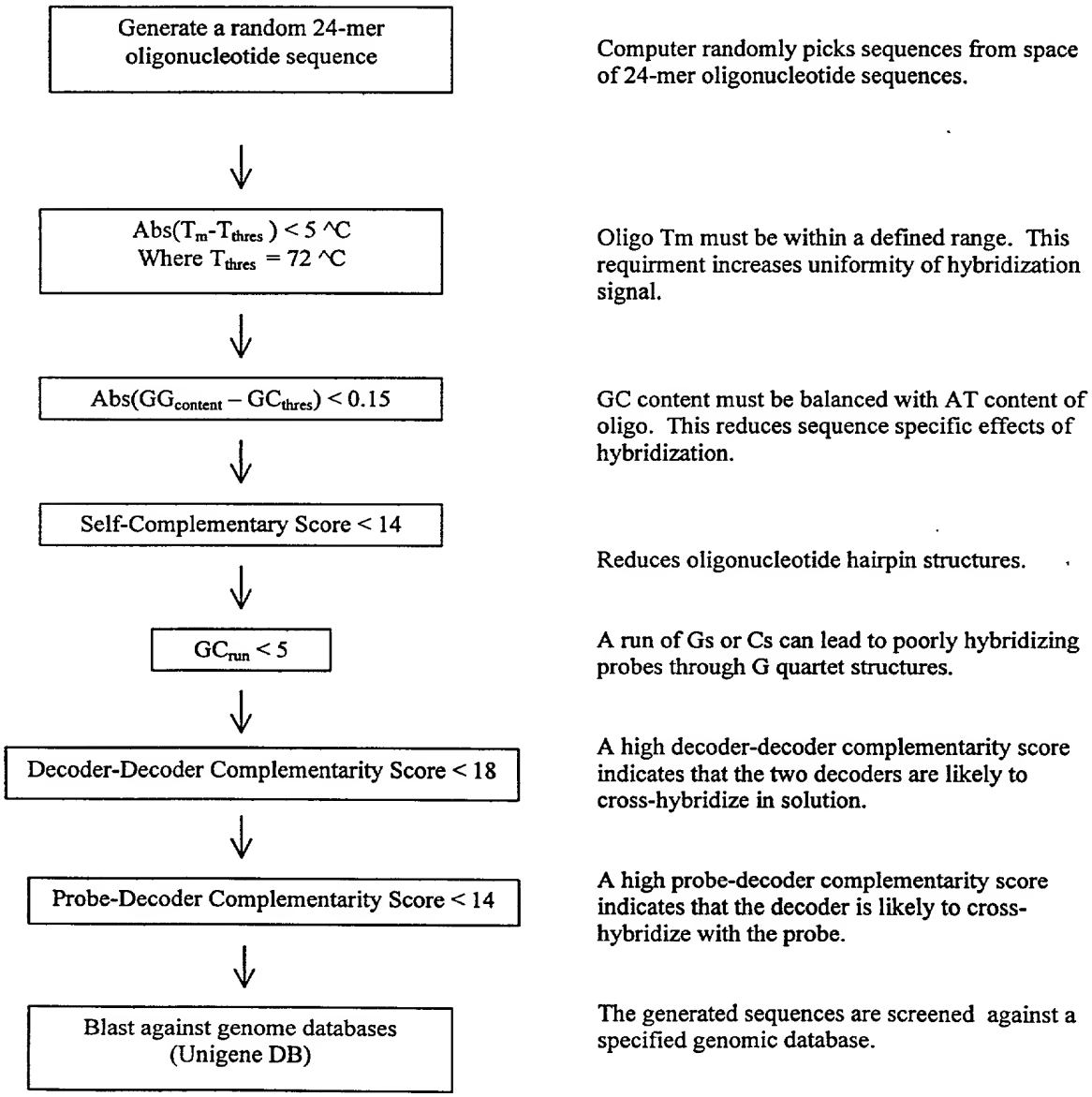

FIGURE 1

Flow Diagram for selection of probes sequences

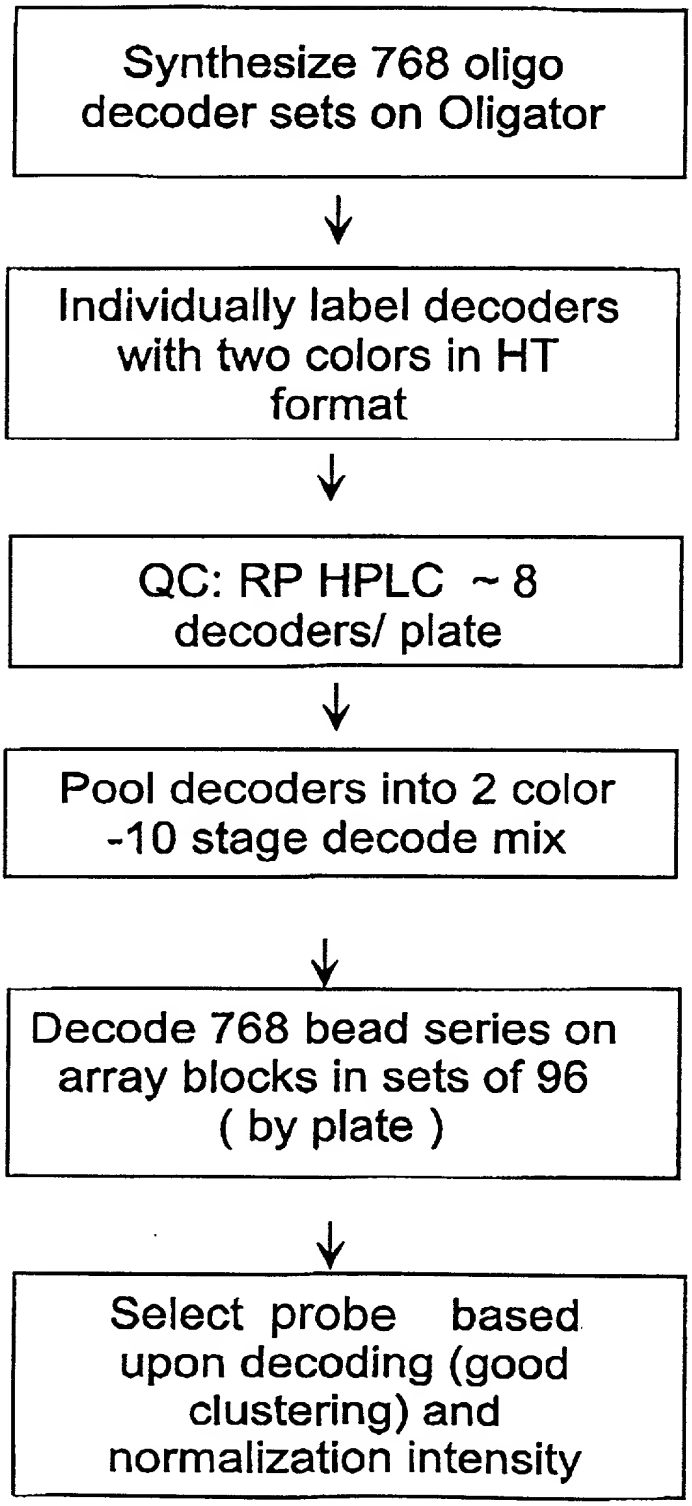

FIGURE 2

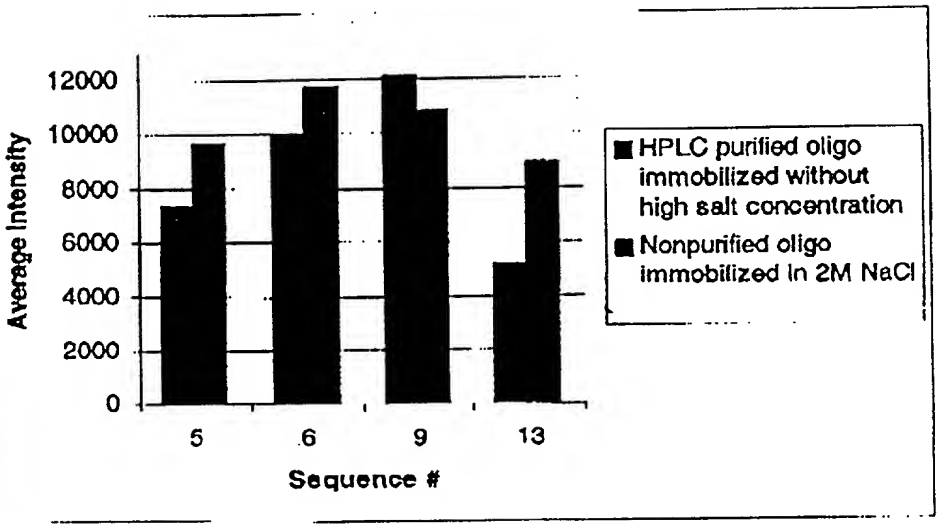

Figure 3

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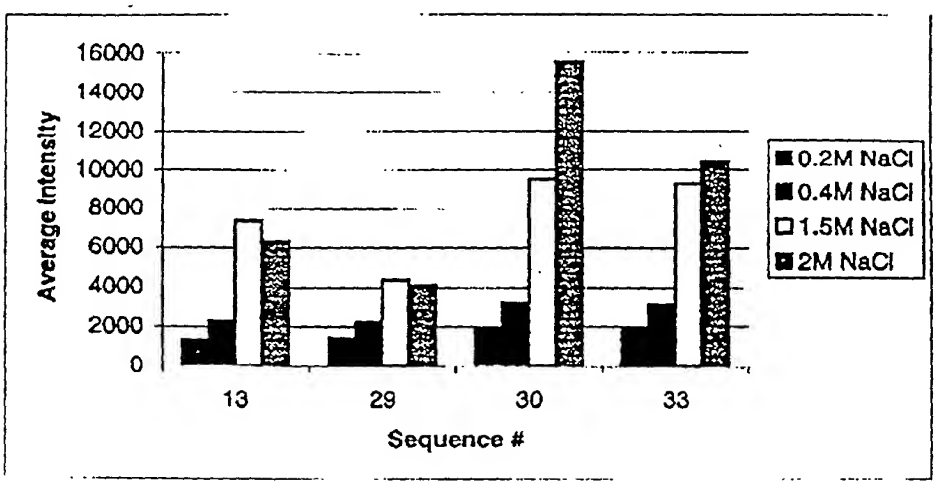

Figure 4

Patent Application Publication

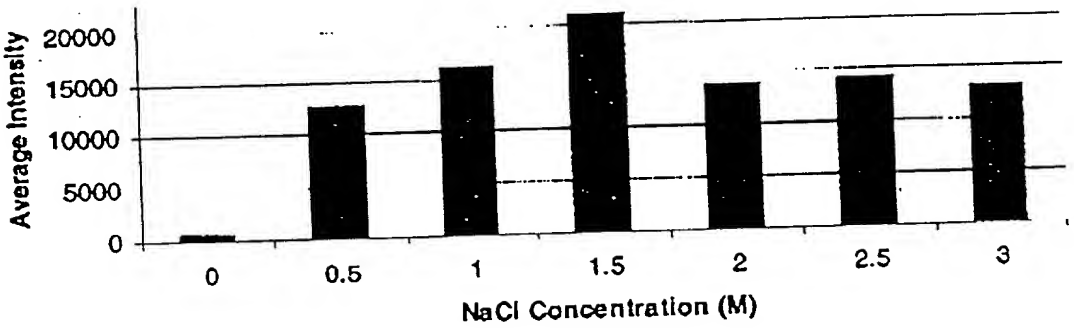
Average Intensity
20000
15000
10000
5000
0
0
0.5
1
1.5
2
2.5
3
NaCl Concentration (M)

Figure 5